

REMARKS

This application includes claims 1-12. With this paper, claims 6-11 are withdrawn from consideration. Claim 12 is amended to correct a grammatical error. No new claims are added. The application now includes 6 claims.

Election in Response to Restriction/Election Requirement

The Examiner required restriction/election to one of the following inventions:

- I. Claims 1-5, 12, drawn to a record medium, and
- II. Claims 6-11, drawn to a process of making.

A provisional election to prosecute the invention of Group I, claims 1-5 and 12, was made previously. With this paper, the election is affirmed. Accordingly, non-elected invention of Group II, claims 6-11, is withdrawn from consideration.

Claim Rejections under 35 USC §102

At page 3, section 2 of the Office action, claims 1-3 and 12 are rejected under 35 USC §102(e) as being anticipated by Nakano *et al* (U.S. Patent Application Publication No. 2003/0186003).

Applicant respectfully submits that, the cited reference, filed on March 31, 2003, is inapplicable as a 35 USC §102(e) reference because the instant application claims a foreign priority date of February 21, 2003, based on Japanese patent applications No. 2003-043771 and No. 2003-043772. Certified English translations of the priority documents are submitted with this paper.

Accordingly, applicant respectfully requests the rejection of claims 1-3 and 12 under 35 USC §102(e) be reconsidered and withdrawn.

Claim Rejections under 35 USC §103

At page 3, section 3 of the Office action, claims 1-5 and 12 are rejected under 35 USC §103(a) as being unpatentable over Shuji *et al* (Japanese Patent Publication No. 01-156,597).

Claim 1 recites a recording medium having a coating layer on the surface of a substrate. The coating layer comprises (A) a polyvinyl alcohol resin containing an acetoacetic ester group (abbreviated as AAPVA), (B) a zirconium compound and (C) an inorganic powder. Claims 2-5 depend on claim 1. Claim 12 recites a recording medium for ink jet printing having a coating layer with the same composition.

Shuji describes a paper processing agent comprising an aqueous solution containing an acetoacetata ester group-containing polyvinyl alcohol resin and a zirconium salt. Shuji does not, however, disclose the inclusion of an organic powder. In rejecting the claims, the Examiner simply alleges that “inclusion of this conventional material would have been obvious to one of ordinary skill in the art”

According to MPEP, to establish a *prima facie* case of obviousness, the Patent Office must meet three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure (MPEP 706.02).

Applicant respectfully submits that, the “reasons” given in the Office action for “modifying” the teachings in Shuji (i.e. adding a inorganic powder)--that “as a matting agent, to affect visual properties, such as brightness, or to increase absorption of the surface”--is merely a statement of the benefits that the addition would result, not that the addition/modification is suggested or motivated by the prior art.

In the present invention, by adding the zirconium compound and the inorganic powder to AAPVA, the surface strength of the coating surface is strong, ink blurring when printing hardly occurs, particularly when used for ink jet printing, and water resistance after printing is excellent. Shuji only states that the composition (without the inorganic powder) has long pot life and paper having high rigidity. Shuji neither describer not suggest the addition of the inorganic powder would achieve above excellent effects of the present invention.

Therefore, it is not obvious for Shuji to include an organic powder in the paper processing agent to arrive at the present invention as recited in claims 1-5 and 12.

Based on the above reasons, applicant respectfully requests that the rejection of claims 1-5 and 12 under 35 USC §103(a) over Shuji be reconsidered and withdrawn.

At page 4, section 4 of the Office action, claims 1, 4 and 5 are rejected under 35 USC 103(a) as being unpatentable over Nakano *et al* or Shuji *et al*, either reference taken alone or in further view of Tomizawa *et al* (U.S. Patent No. 6,224,971).

As it is noted above, Nakano is not applicable as a reference for prior art purposes. Therefore, applicant considers a combination of Shuji and Tomizawa as the basis for the rejection and submits that neither Shuji nor Tomizawa, alone or in combination, teach or suggest the present invention.

It has already shown in the above that Shuji does not teach all the limitations of claim 1. Especially, Shuji does not teach or suggest the inclusion of an organic powder. Tomizawa, on the other hand, describes an ink-jet recording sheet comprising a substrate and an ink-receptive coating layer with a liquid coating composition comprising an acetoacetylated polyvinyl alcohol, a polyvinylpyrrolidone resin and an acidic aqueous dispersion of a colloidal silica. Tomizawa does not teach all the limitations of claim 1. Especially, Tomizawa does not teach or suggest the inclusion of a zirconium compound.

As for the purpose of having a zirconium compound or an inorganic powder in the polymeric solutions for ink-jet sheet coating, Shuji states that the composition with zirconium salt results in long pot life and giving a paper having high rigidity (see abstract). Tomizawa states that the inorganic powder (e.g. colloidal silica) is used as surface roughening agent (col. 4, lines 47-61).

Neither Shuji nor Tomizawa teach or suggest that adding a zirconium compound and an inorganic powder to AAPVA at same time would result in increased surface strength of the coating layer (e.g. less damage or peeling), almost no ink blurring when printing, and high water resistance after printing. These results, as achieved by the present invention and presented as comparative examples in the specification, are unexpected when combining the teachings of

Shuji and Tomizawa. Therefore, the composition as claimed in claim 1 is not obvious with regard to Shuji in view of Tomizawa.

Based on the above reasons, applicant respectfully requests that the rejection of claim 1 under 35 USC §103(a) be reconsidered and withdrawn. Accordingly, applicant also requests rejections of claims 4 and 5, being dependent on claim 1, be reconsidered and withdrawn.

Conclusion

For all the foregoing reasons it is believed that all remaining claims of the application are in condition for allowance, and their passage to issue is earnestly solicited. Applicant's attorney urges the Examiner to call to discuss the present response if anything in the present response is unclear or unpersuasive.

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